U.S. Department
of Transportation

**Pipeline and
Hazardous Materials
Safety Administration**

**East Building, PHH-23
1200 New Jersey Avenue SE
Washington, D.C. 20590**

**COMPETENT AUTHORITY CERTIFICATION
FOR A TYPE FISSILE
RADIOACTIVE MATERIALS PACKAGE DESIGN
CERTIFICATE USA/0595/AF-96, REVISION 5**

**REVALIDATION OF JAPANESE COMPETENT AUTHORITY
CERTIFICATE J/156/AF-96**

This certifies that the radioactive material package design described is hereby approved for use within the United States for import and export shipments only. Shipments must be made in accordance with the applicable regulations of the International Atomic Energy Agency[1] and the United States of America[2].

1. Package Identification - RAJ-III.

2. Package Description and Authorized Radioactive Contents - as described in Japan Certificate of Competent Authority J/156/AF-96, Revision 1 (attached).

3. Criticality - The minimum criticality safety index is 0.25. The maximum number of packages per conveyance is determined in accordance with Table X of the IAEA regulations cited in this certificate.

4. General Conditions -

   a. Each user of this certificate must have in his possession a copy of this certificate and all documents necessary to properly prepare the package for transportation. The user shall prepare the package for shipment in accordance with the documentation and applicable regulations.

   b. Each user of this certificate, other than the original petitioner, shall register his identity in writing to the Office of Hazardous Materials Technology, (PHH-23), Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation, Washington D.C. 20590-0001.

   c. This certificate does not relieve any consignor or carrier from compliance with any requirement of the Government of any country through or into which the package is to be transported.

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[1] "Regulations for the Safe Transport of Radioactive Material, 1996 Edition (Revised), No. TS-R-1 (ST-1, Revised)," published by the International Atomic Energy Agency(IAEA), Vienna, Austria.

[2] Title 49, Code of Federal Regulations, Parts 100-199, United States of America.

d. Records of Quality Assurance activities required by Paragraph 310 of the IAEA regulations[1] shall be maintained and made available to the authorized officials for at least three years after the last shipment authorized by this certificate. Consignors in the United States exporting shipments under this certificate shall satisfy the applicable requirements of Subpart H of 10 CFR 71.

5. Special Conditions -

a. Transport by air is not authorized.

b. Lid lifting features must be rendered incapable of being used for lifting or tie-down of the package.

c. Package closure bolts must be adequately secured and torqued to prevent loosening during transport. Minimum and maximum torque values shall be included in the operating instructions for the package.

d. For shipments which enter into or transit the United States, all international approvals and revalidations, including the Approval of Packaging and Confirmation of Package certificates issued by the government of Japan, shall be issued prior to the commencement of transport.

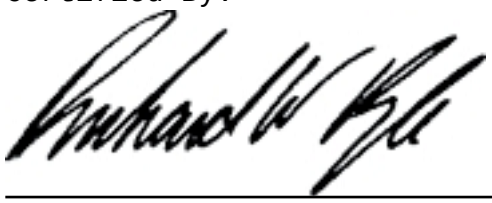
6. Marking and Labeling - The package shall bear the marking USA/0595/AF-96 in addition to other required markings and labeling.

7. Expiration Date - This certificate expires on September 10, 2013.

CERTIFICATE USA/0595/AF-96, REVISION 5

This certificate is issued in accordance with paragraph 814 of the IAEA Regulations and Section 173.472 and 173.473 of Title 49 of the Code of Federal Regulations, in response to the December 15, 2008 petition by Transport Logistics International, Fulton, MD, and in consideration of other information on file in this Office.

Certified By:



Robert A. Richard
Deputy Associate Administrator for Hazardous Materials Safety

Mar 06 2009
(DATE)

Revision 5 - Issued to endorse Japanese Certificate of Approval No. J/156/AF-96, Revision 1, dated September 29, 2008.

IDENTIFICATION MARK
J/156/AF-96 (Rev.1)

COMPETENT AUTHORITY
OF
JAPAN

CERTIFICATE OF APPROVAL OF PACKAGE DESIGN FOR THE TRANSPORT OF RADIOACTIVE MATERIALS

ISSUED BY

MINISTRY OF ECONOMY, TRADE AND INDUSTRY
1-3-1, KASUMIGASEKI, CHIYODA-KU
TOKYO, JAPAN

CERTIFICATE OF APPROVAL OF PACKAGE DESIGN FOR THE TRANSPORT OF RADIOACTIVE MATERIALS

This is to certify, in response to the application by Global Nuclear Fuel - Japan Co., Ltd., that the package design described herein complies with the design requirements for a package containing fissile uranium dioxide fuel rods, specified in the 1996 Edition (As Amended 2003) of the Regulations for the Safe Transport of Radioactive Material (International Atomic Energy Agency, Safety Standards Series No.TS-R-1) and Japanese rules based on the Law on the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors.

This certificate does not relieve the consignor from compliance with any requirement of the government of any country through or into which the package will be transported.

COMPETENT AUTHORITY
IDENTIFICATION MARK: J/156/AF-96 (Rev.1)

Sep. 29, 2008
Date

Izuru Hanaki

Izuru Hanaki
Director
Nuclear Fuel Transport and Storage
Regulation Division
Nuclear and Industrial Safety Agency
Ministry of Economy, Trade and Industry
Competent Authority of Japan
for Package Design Approval

SPECIFICATION

1. NAME OF PACKAGE : Type RAJ-III

2. CATEGORY OF THE PACKAGE : Type A fissile package

3. DESCRIPTION OF NUCLEAR FUEL PACKAGE
   (i) Description of materials : See Attached Table -1
   (ii) Total Weight of Nuclear Fuel Package : 1,490kg or less
   (iii) Outer Dimension of Packaging
   Length : Approximately 507cm
   Width : Approximately 73cm
   Height : Approximately 74cm
   Overall View : See Attached Figure
   (iv) Weight of Packaging : Approximately 920kg
   (v) Description of Nuclear Fuel Materials and so on : See Attached Table -2
   (vi)Illustration of Package : See attached Figure (Bird's-eye view)
   Refer to the following drawing for more details.
   Title: Structure of Outer Container (RAJ-III) 1/6 – 6/6, Date: 2006.12.25
   Number of Drawing: TTO-T06-047-01
   Title: Structure of Inner Container (RAJ-III) 1/6 – 6/6, Date: 2006.12.25
   Number of Drawing: TTO-T06-047-02
   Title: Structure of Shock Absorber (RAJ-III) 1/1, Date: 2006.12.25
   Number of Drawing: TTO-T06-047-03

4. RESTRICTIONS OF TRANSPORT
   (i) Restriction Number : 200
   (ii) Array of Package : No restriction
   (iii)Criticality Safety Index(CSI) : 0.25
   (iv)Transport Index (TI) : 0.6

5. SPECIAL FEATURES IN THE CRITICALITY ASSESSMENT
   As the containment boundary is the fuel tube on this package, the subcriticality calculation is evaluated upon assumption that the whole portion of outer and inner container is in immersion condition by water except inside of the fuel rods.

6. DESCRIPTION OF NON APPLICABLE DESIGN STANDARD OF TYPE BU FISSILE PACKAGE ABOUT TYPE BM FISSILE PACKAGE

Not Applicable

7. INSTRUCTIONS ON USE AND MAINTENANCE OF PACKAGING

(1) Instructions on Maintenance of Packaging

(a) The packages or packagings shall be lifted with a forklift or exclusive crane.

(b) The packaging shall be prevented from being immersed by rainwater in order to keep the packaging in goodness, being covered by waterproof sheets etc. in outside or inside of facility.

(c) Periodic independent inspections of each packaging shall be conducted more than once per year. (In case where a packaging is used for transport more than ten times per year, the periodic independent inspections shall be conducted at least once every ten transports.)

(2) Actions prior to Shipment

Each package shall be checked for the following items before shipments.

(i) Visual Inspection
(ii) Lifting Inspection
(iii) Weight Measurement
(iv) Surface Contamination Measurement
(v) Radiation Dose Rate Measurement
(vi) Subcriticality Inspection
(vii) Content Inspection

(3) Precautions for Loading of Package for Transport

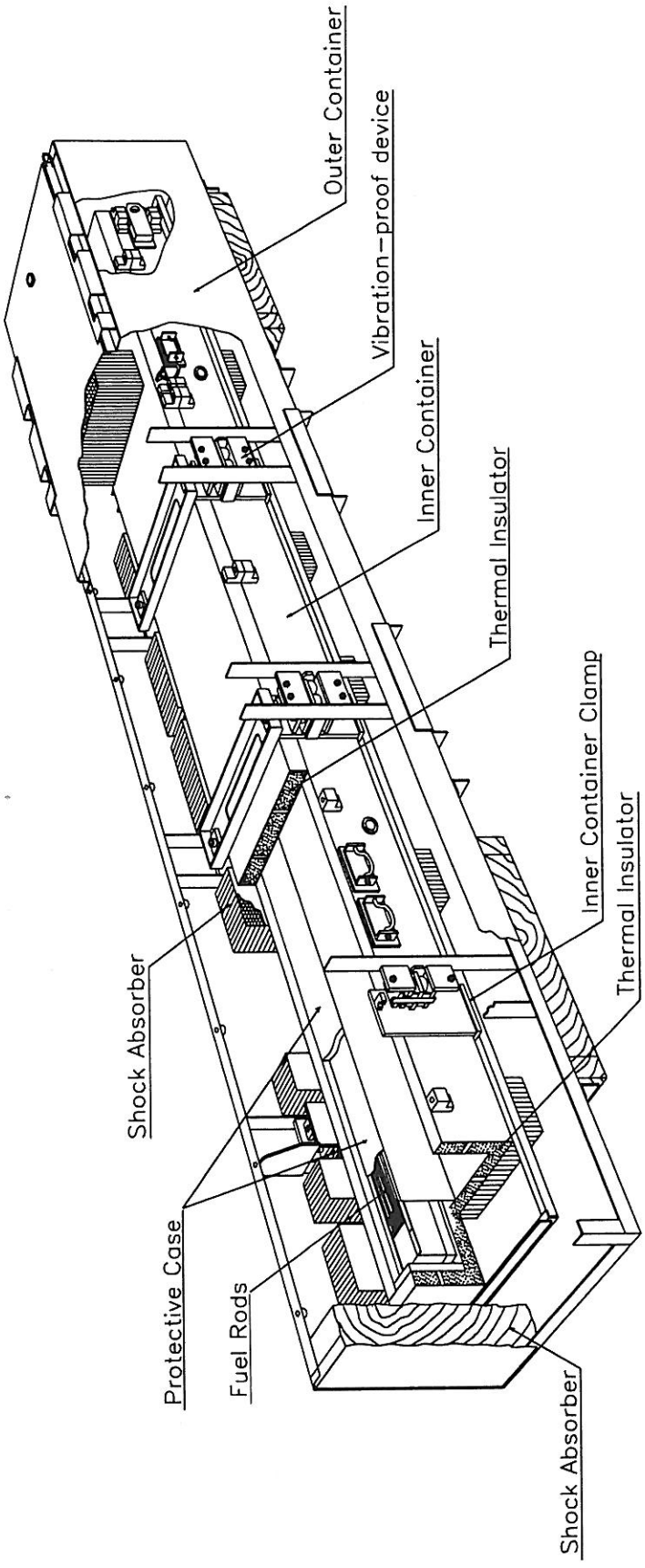
Loading of the package shall be performed such that the package will not move, roll down or fall down during transport.

8. SAFETY ANALYSIS

Refer to Safety Analysis Report (SAR) No. TTO-T06-047 for more details.

9. ISSUE DATE AND EXPIRY DATE

(1) Issue Date : September 11, 2008
(2) Expiry Date : September 10, 2013



Attached Figure Overall View of Type RAJ-III Package

Attached Table-1 Description of Materials in Packaging Assembly

	Portion of Packaging Assembly	Material and so on
Inner Container	Outer Shell	Stainless Steel (SUS 304;ASTM 304/304L)
	Inner wall	
	Thermal Insulator	Alumina Silicate
	Cushion	Polyethylene Foam
	Gaskets	Natural Rubber
Outer Container	Outer Shell	Stainless Steel (SUS 304; ASTM 304/304L)
	Angle	
	Shock Absorber	Balsa and Paper Honeycomb
	Gaskets	Natural Rubber

Attached Table-2 Description of Nuclear Fuel Materials and so on.

Description	Non Irradiated Nuclear Fuel Rod (Uranium Dioxide)	
Property	Solid (Pellet)	
Weight	Contents	Maximum 570 kg Protective Case(TYPE I) [Maximum 46 pieces of non Irradiated 8x8 Type Nuclear Fuel Rods are installed by one Protective Case] Protective Case(TYPE II) [Maximum 46 pieces of non Irradiated 8x8 Type Nuclear Fuel Rods are installed by one Protective Case] [Maximum 52 pieces of non Irradiated 9x9 Type Nuclear Fuel Rods are installed by one Protective Case] [Maximum 2 units of Protective Cases are installed by one packaging]
	UO2	Maximum 306 kg
	U	Maximum 269.7kg
Total Activity	Maximum 35.6 GBq	
Enrichment	Maximum 5.0 wt%	
Burn up Rate	Not Applicable	
Total Heat Generation Rate		
Cooling Time		
Impurity Specification of Enriched Uranium	^{232}U	$\leqq 2\times10^{-9}$ g/g^{235}U
	^{234}U	$\leqq 1\times10^{-2}$ g/g^{235}U
	^{236}U	$\leqq 5\times10^{-3}$ g/g^{235}U
	^{99}Tc	$\leqq 2\times10^{-7}$ g/g^{235}U

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CERTIFICATE NUMBER: USA/0595/AF-96, Revision 5

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